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Spring 2021

PHYS 103-004: General Physics

Kushal Shrestha

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COURSE SYLLABUS PHYSICS 103-004 SPRING 2021

INSTRUCTOR : PROF. KUSHAL SHRESTHA
EMAIL ADDRESS: SHRESTHA@NJIT.EDU

CLASS MEETING WEBLINK: HTTPS://NJIT.WEBEX.COM/MEET/SHRESTHA

COURSE MATERIALS*:*

Required Textbook: *Physics Principles with applications, 7th edition, Douglas Giancoli*
Textbook ISBN-13: 9780321625922. Hard copy or E-book acceptable.

Office hours: After Lecture ***Classes Meeting: Mon 2:30 pm – 3:50 pm***
Thu 11:00 am – 12:20 pm

PRE-REQUISITES AND CO-REQUISITES:

- **Pre-requisites: Phys 102 with grade C or better**
- **Co-requisites: Phys 103A (the lab course) unless a waver is provided by the Physics Dept Office. For example, the Lab 103A may be rescheduled for the next Semester.**

FAILURE TO MEET EITHER CO-Requisites or PRE-Requisites will result in student being dropped from class.

COURSE MATERIAL:

Specific Information for the Mastering Physics homework system:

You need a valid Mastering Physics account and access code to sign up for the course your instructor sets up on MP. The course ID is shrestha23938 for you to use when enrolling in that specific class. Use your NJIT email address as the logon ID for your account. Input your name exactly as it appears on NJIT's records: last name first, followed by a comma and your first and possibly middle name. Likewise, enter your 9 digit NJIT ID where indicated.

In addition, the registration instruction file is also uploaded on canvas for your convenience. Follow those steps given on it

For your own reference, record the unique course identifier, and your login ID and password. Instructors cannot access forgotten logins or passwords.

Remote Class Meeting

Classes are met on webex. To connect to the meeting, click on the https://njit.webex.com/meet/shrestha at the meeting time. The materials used in the lecture session will be mainly based on power point slides posted on canvas.

CLASS ATTENDANCE: The NJIT attendance policy is the following: "It is expected that students will attend all classes. Your teacher will take attendance at all classes and exams. More than 3 unexcused absences (in total) are excessive. The attendance is in the classroom or via WebEx.

COUNSELING AND ACADEMIC SUPPORT: The Center for Counseling and Psychological Services **is committed to assisting students experiencing high levels of personal challenge and stress.** If you need accommodations due to a disability please contact Associate Director of Disability Support Services.

HELP: Visit or email your instructors if you are having trouble with the course; do not simply hope for a miracle and fall further behind. The Physics Dept. office on the 4th floor of Tiernan may have more information on tutoring.

GRADING

Two Mid-term exams (20% each):	40%
Final Exam (Cumulative)	30%
Online Homework:	20%
Class Participation	10%

- Final grades will not be curved.

Final course grades are based on the following scale, with composite scores rounded to the nearest whole percent.
FINAL EXAM **Comprehensive Final Exam will be given** during Final Exam Period.

The conversion of term average values to letter grades will use the following cutoff values:

- **80% for A, 76% for B+, 66% for B, 56% for C+, 50% for C, and D or F below 50%.**

COURSE POLICIES

In order to ensure consistency and fairness in application of the NJIT policy on withdrawals, student requests for withdrawals after the deadline *(end of the 10th week of classes)* will not be permitted unless extenuating circumstances are documented **through the Office of the Dean of Students**. The course instructor and the Dean of Students are the principal points of contact for students considering withdrawing from a course. When a student invokes extenuating circumstances for any reason (late withdrawal from a course, request for a make-up exam, request for an Incomplete grade) the student will be sent to the Dean of Students Office. The Dean of Students will be making the determination of whether extenuating circumstances exist or not and will be notifying the instructor accordingly. Instructors should never request or accept medical or other documents from students; such documents need to be submitted by the student to the Dean of Students.

Exams

The section 002 and 004 of PHYS 103 course does not follow common mid-term exam schedule with other sections for Spring 2021 semester. Thus, all exams of these sections are held online on canvas and webex meeting as specified below. During the exam, students are required to be on time and turn on their web camera so that they can be proctored. The meeting will be locked and recorded once the exam begins. It is illegal for students to contact with any outside person or use a cell phone or internet during the exam. If found, they will be expelled from the meeting and reported to the dean of students.

HONOR CODE

"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. *If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu"*

LEARNING OUTCOMES: For this course you can expect to be assessed on the following learning outcomes:

1. Comprehend the meaning of equations governing the fluid at rest and fluid in motion. Understand the extension of conservation of energy and mass equations to fluid dynamics.
2. Define temperature scales.
3. Understand the phenomena of thermal expansion and Ideal Gas Law,
4. Understand the concept of heat and comprehend the meaning of equations governing the calorimetry and heat transfer.
5. Understand the basics concepts of thermodynamics.
6. Comprehend the meaning of equations governing oscillations and mechanical waves and apply those concepts to solve related problems.
7. Understand the concept of electric charge, electric field, electric potential, and electric current. Apply those concepts to solve simply circuits.
8. Understand the basic concepts of geometrical optics and learn how to apply them for mirrors, lenses and optical fibers.
9. Comprehend the wave theory of light and apply it the phenomena of interference and diffraction.

Topics
Elasticity
Fluids
Temperature and Kinetic Energy
Heat
Laws of Thermodynamics
Mid Term Exam1, March 1, Monday
Oscillation & Waves
Sound
Spring Recess (03/14 – 03/21)
Electric Charges, Electric Field, Electric Potential
Electric Current, DC Circuits
Mid Term Exam2, April 5, Monday
Light: Geometrical Optics
Lenses
The Wave Nature of Light
Final Exam Week (05/07 – 05/13)